

**Geographies of Morbidity in the United Kingdom, 1898-1908.
Evidence from the *Annual Reports* of the Post Office's Chief Medical Officer.**

Harry Smith, David Green, Nicola Shelton, Douglas Brown, Kathleen McIlvenna, Laura Newman, Natasha Preger and Holly Marley

Extended Abstract

Introduction

Although the study of occupational health, and morbidity more generally, has expanded in recent years, we still know relatively little about how levels of ill health varied from place to place. Riley's two chapters on the issue in his volume *Sick, Not Dead*, remain the only sustained examination of this historical topic in Britain. This gap in evidence arises from the fact that while sources examining historical morbidity are rare. Sources giving some sense of geographical variation are even rarer and, where they exist, they are often cumbersome to digitise and analyse. This paper uses a novel source to shed new light on the geography of occupational health and wider morbidity in the United Kingdom at the turn of the twentieth century. The source is data collected from the *Annual Reports* produced by the Chief Medical Officer of the Post Office from the early 1890s onwards.

These *Reports* provide, for Post Offices through England, Ireland, Scotland and Wales, the size of the workforce, the percentage of that workforce that took sick leave in the previous year, and the mean duration of sick leave taken. These three measures are, from 1898 onwards, broken down by gender and occupation. These data have been transcribed from three reports: 1898, 1903, 1908. The definition of sickness was consistent across this period and, for the first time, allow the geography of occupational health to be examined across the whole of the United Kingdom.

Summary Findings

- 1) The prevalence of sick leave increased across the period as the share of male and female workers taking sick leave increased. The mean duration of these sick leave absences decreased slightly for men, while for women it increased and then decreased. Women were more likely to take time off and, on average, their periods off sick were longer (see Table 1).
- 2) The share of postal workers taking sick leave was lowest in Scotland, for both male and female postal workers, although male postal workers in England and Wales (excluding London) also had low rates of sickness, lower than the figures for Scottish female workers. The highest rates of sick leave were in Ireland and London, with the percentage of London workers reporting sick rising over the period, and the figure for Ireland falling (see Figure 1).
- 3) Pattern for days off was more mixed. But areas with high percentages of sick workers tended to have shorter sick leave durations (See Figure 2).
- 4) For the sample years, the proportions of all workers in all occupations taking sick leave rose between 1898-1908. Unestablished workers were less likely to be sick than established workers, apart from boy messengers who were the most likely to have been sick at least once in the preceding year (See tables 2 & 3). Within these broad categories there could be substantial variation; 36 per cent of rural postman took sick leave in 1898 compared to 49 per cent of urban postmen.
- 5) The pattern for sickness duration is more complex, with falls in mean duration for male and female unestablished workers, boy messengers and postmen. Female sorters saw

their mean sickness duration increase, as did other established female workers. Occupations with lower percentages sick tended to have longer sickness durations, perhaps suggesting they were sicker overall. In general, established workers took more time off work for sickness than unestablished workers.

- 6) There is no clear geography to either the percentage of the workforce off sick in a given year, or the mean duration of sickness, apart from that already noted above regarding the general lower prevalence for Scotland (See Figures 3 and 4 for male workers in 1898).
- 7) The determinants of occupational health in any given place are clearly complex and relate to a combination of individual, occupation and environmental characteristics. These data are only available in the aggregate so individual-level characteristics cannot be observed. However, the effects of the occupational makeup on the prevalence of sickness in a given location can be modelled. A multiple linear regression using the 1898 and 1903 male data reveals generally small effects and a lot of variance remain unexplained. Increases in the share of the workforce working outdoors, the latitude and the median age of the workforce tended to slightly decrease the percentage of male workers reporting sick. An increase in population density tended to slightly increase the proportion of workers sick in the previous year. The year had a large effect, with the proportion sick increasing substantially in 1903 (See Figure 5).

Conclusion

In general the rise in the percentage of workers reporting sick and the variation in the mean days off sick paint a complex picture of the geography of ill health at the turn of the twentieth century. Higher status occupations (postmasters, superintendents, inspectors) tended to take more time off than unestablished staff or lower-status established occupations (sorters, telegraphists). However, those occupations where the mean time off work was longer also tended to be less likely to take time off. The explanation for this pattern is still unclear, but likely reflects the interaction of risk factors (more senior positions were less likely to suffer accidents or develop strains and other injuries) and the ability to take time off (senior positions were better paid and thus likely to be able to cope with time off work more easily).

Considerable work remains to be done to explain the complex geographic patterns revealed by mapping the data contained in the *Annual Reports* of the Chief Medical Officer. The relatively weak results of the model suggest that much of the variation remains unexplained and is likely related to personal characteristics (precise age of workers, personal histories and behaviour). It may be that as yet unmeasured environmental characteristics (living conditions, pollution, levels of deprivation) or variation in the kind and intensity of postal work from place-to-place played a role in the patterns observed.

Tables and Figures

Year	Male		Female	
	% Sick	Days Off Per Sick Worker	% Sick	Days Off Per Sick Worker
1898	46.7	13.5	61.1	14.3
1903	48.5	13.4	65.2	15.5
1908	55.6	13.0	73.6	14.4

Table 1. Percentage of workers sick and mean days off by gender, United Kingdom, 1898-1903.

Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898, 1903, 1908.

Occupation	Percentage Sick			Days Off per Sick Worker		
	1898	1903	1908	1898	1903	1908
Total	46.7	48.5	55.6	13.5	13.4	13.0
Clerical, supervising staff	44.7	48.8	53.7	15.4	13.9	14.6
Sorters, Telegraphists, etc	49.4	51.9	58.4	12.1	13.6	13.8
Postmen	47.1	52.8	59.1	16.5	15.6	14.3
Other Established staff	48.2	52.0	59.4	14.7	12.7	14.3
Boy Messengers	55.0	59.5	66.8	8.4	7.9	7.9
Unestablished Persons (not class 5)	33.3	37.0	43.5	15.8	12.5	11.5

Table 2. Percentage of male workers sick and days off sick per sick worker by occupation, United Kingdom, 1898-1908.

Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898, 1903, 1908.

Occupation	Percentage Sick			Days Off per Sick Worker		
	1898	1903	1908	1898	1903	1908
Total	61.0	65.2	73.6	14.3	15.5	14.4
Clerical, supervising staff	64.5	71.1	72.6	15.6	16.5	15.4
Sorters, Telegraphists, etc	62.8	70.2	79.5	14.6	15.6	15.8
Postwomen			86.8			12.1
Other Established staff	76.4	79.4	81.8	10.5	11.0	12.9
Unestablished Persons (not class 5)	48.1	52.0	56.0	13.2	13.0	11.5

Table 3. Percentage of female workers sick and days off sick per sick worker by occupation, United Kingdom, 1898-1908.

Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898, 1903, 1908.

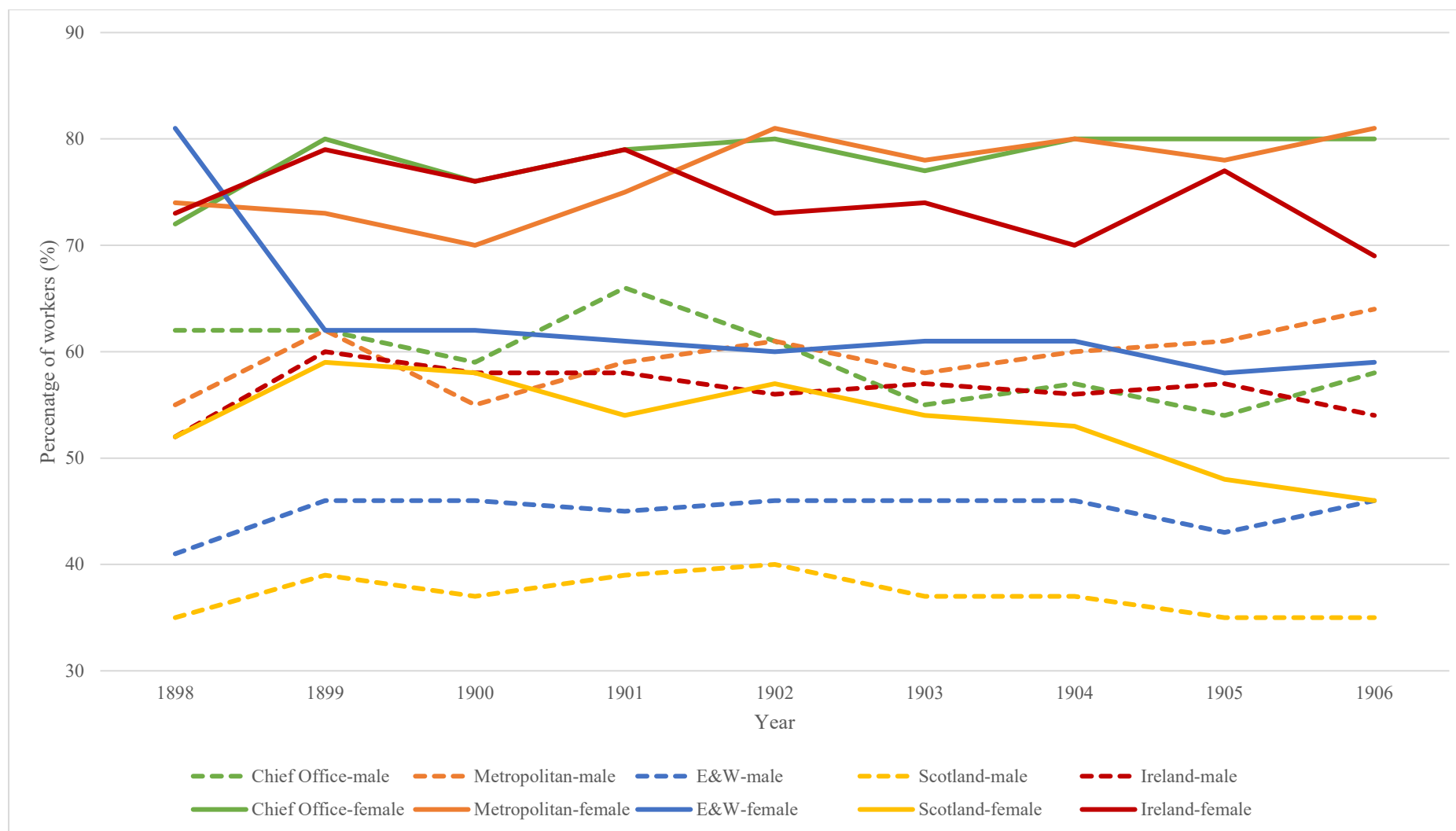


Figure 1. Percentage of workers sick by location and gender, 1898-1906, established workers only.
Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898-1906.

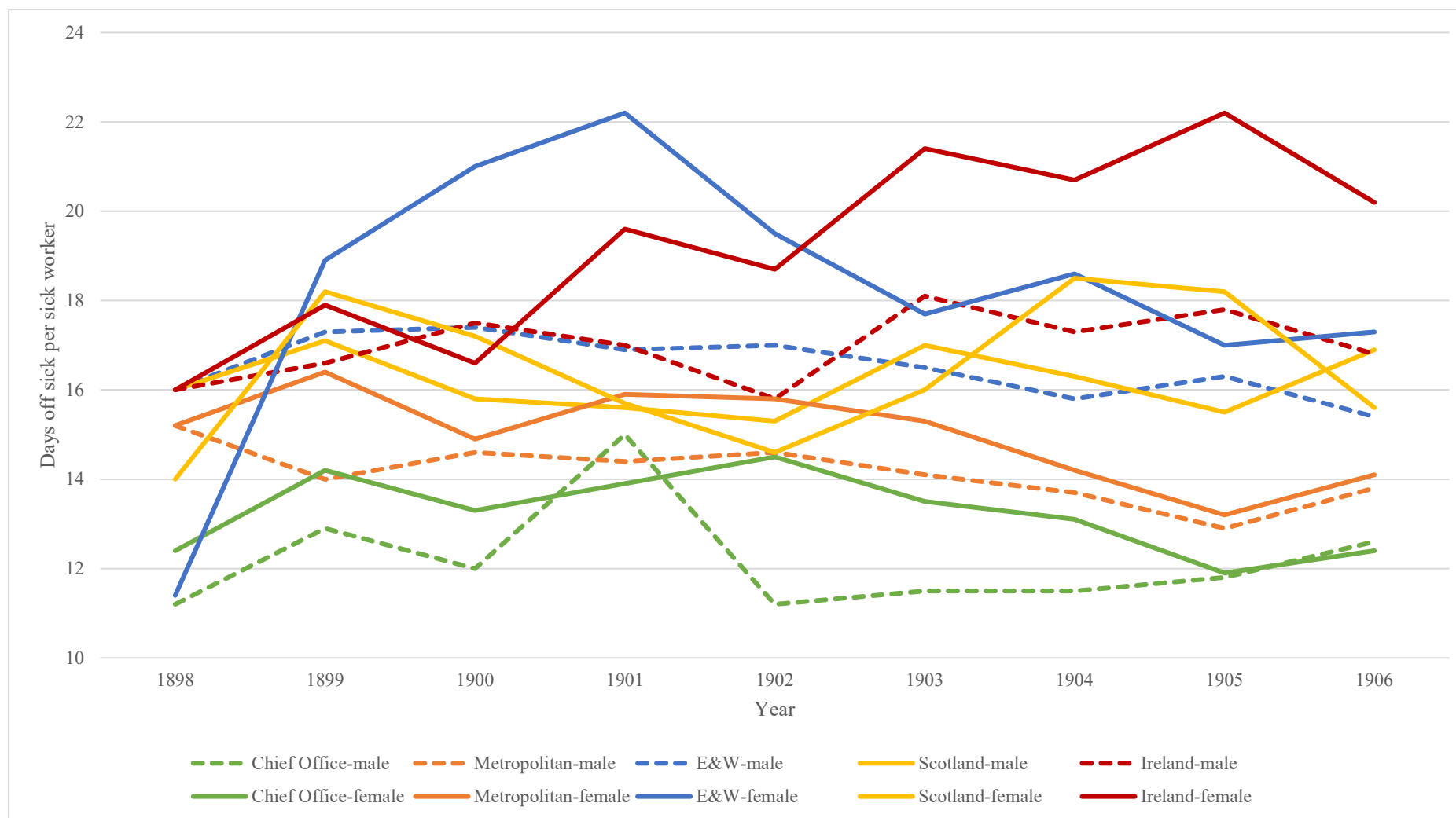


Figure 2. Days off sick per sick worker, 1898-1906, established workers only.

Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898-1906.

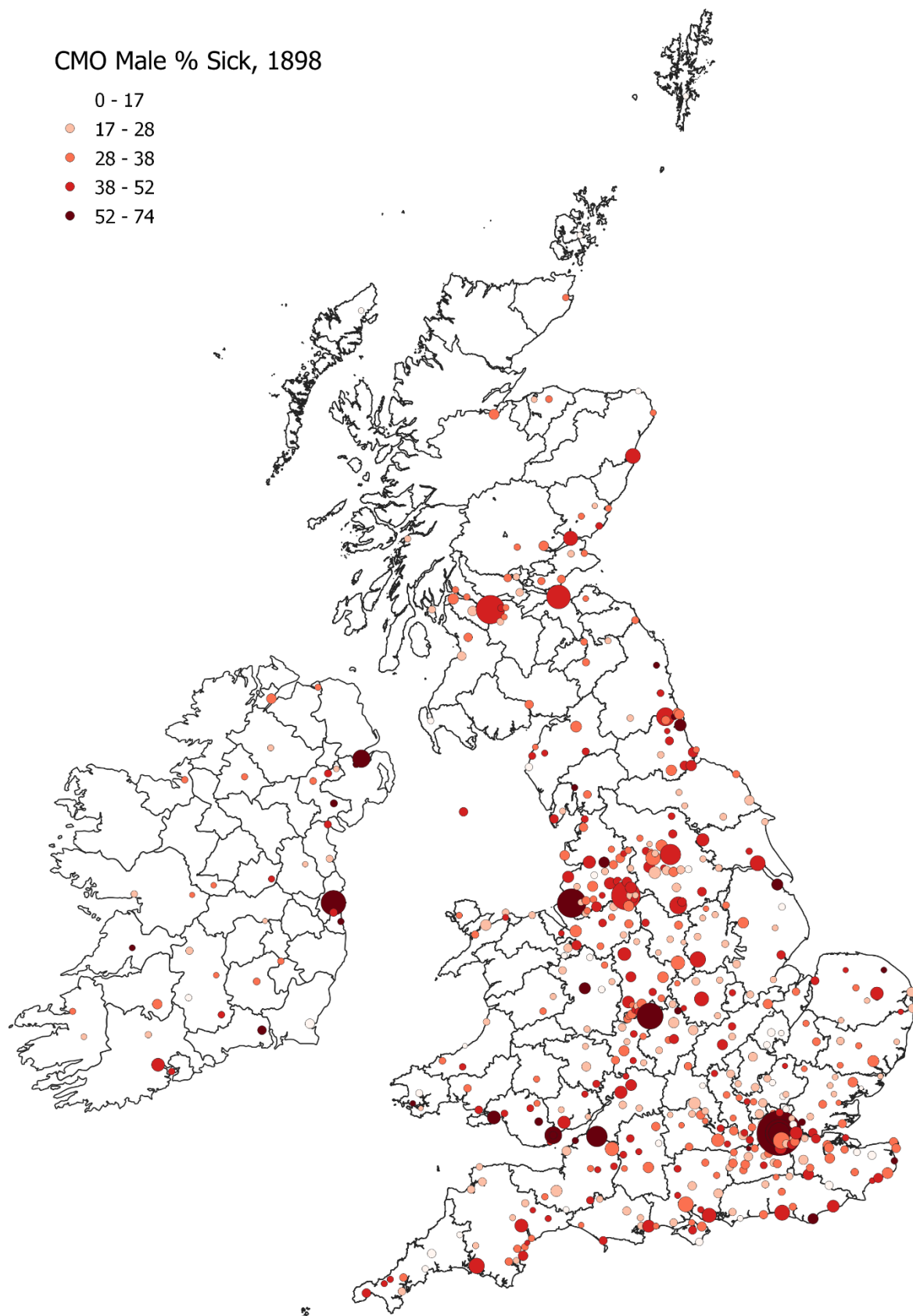


Figure 3. Percentage of male workers sick at each post office, 1898.

Source: The Postal Museum, POST 64/16 *Chief Medical Officers Reports*, 1898.

Note: Circle size indicates overall workforce size.

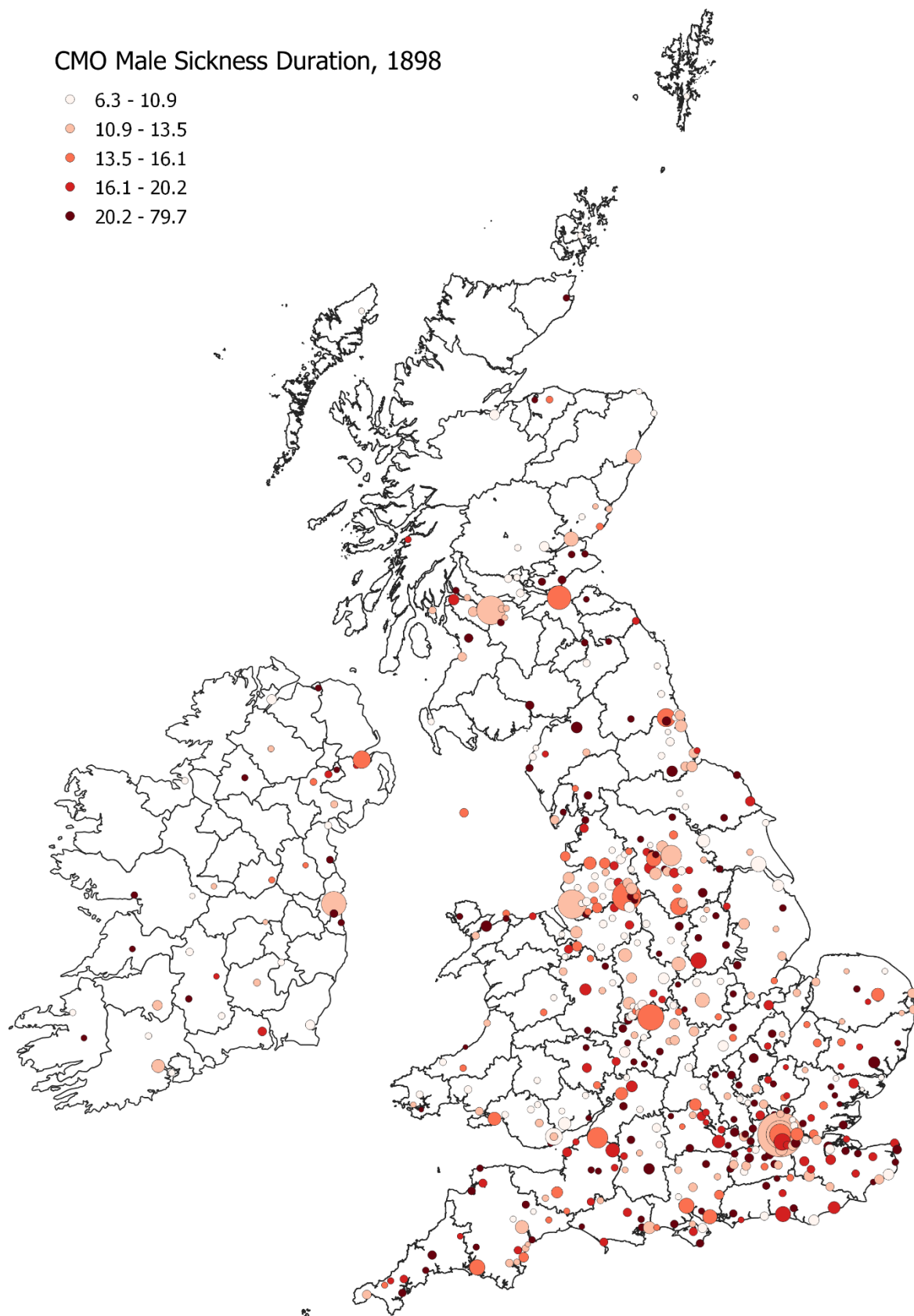


Figure 4. Days off sick per sick male worker at each post office, 1898.
Source: The Postal Museum, POST 64/16 *Chief Medical Officers Reports*, 1898.
Note: Circle size indicates overall workforce size.

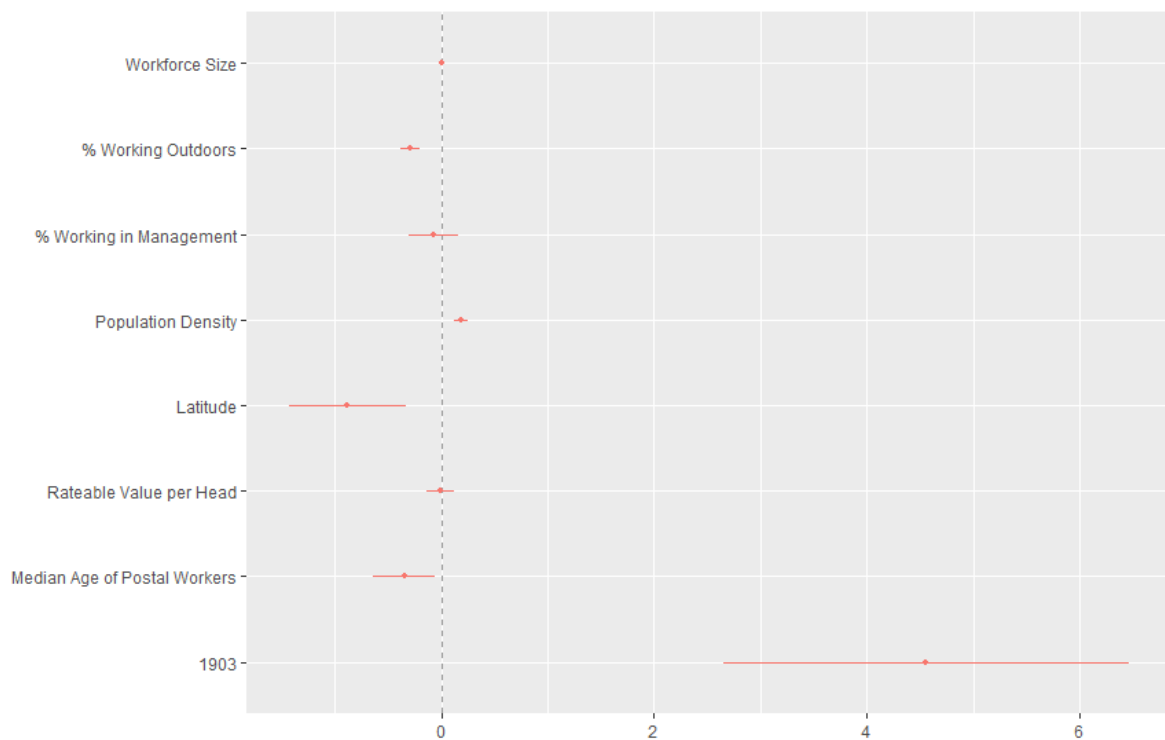


Figure 5. Association of occupation and location on percentage of male workers sick, 1898-1903.

Source: The Postal Museum, POST 64/16 and POST 64/17 *Chief Medical Officers Reports*, 1898, 1903.

Notes: Adjusted R-squared 0.3008; plot shows 95% confidence intervals.